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(71)Applicant : TOYOTA MOTOR CORP

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(72)Inventor : OHASHI TAKESHI  
SAGIYAMA TATSUYA  
OMI YASUAKI

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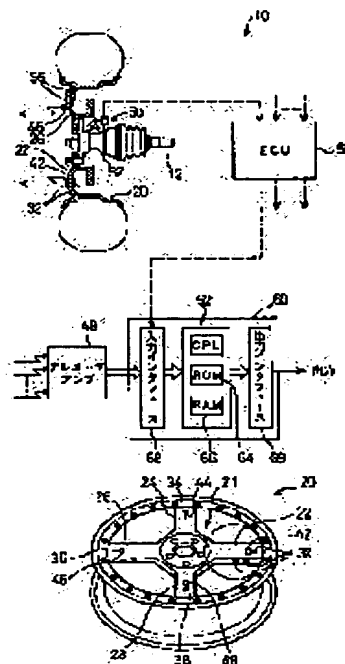
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## (54) AXLE FORCE DETECTOR

(57)Abstract:

**PROBLEM TO BE SOLVED:** To precisely detect the force acting on the axle of a vehicle.

**SOLUTION:** An axle force detector 10 has distortion sensors 32, 36 for detecting the distortion of the disc part 21 of a wheel 20 mounted on an axle 12, small-sized and lightweight telemeter transmitter 42, 46 for transmitting the detected distortions, a telemeter amplifier 49 for receiving distortion signals, a rotating speed sensor 50 for detecting the rotating speed  $V$  of the axle 12, and an axle force arithmetic device 60 for calculating the force  $F$  acting on the axle 12. The axle force arithmetic device 60 calculates the force acting on the axle 12 on the basis of the distortion of the disc part 21 and the rotating speed  $V$  of the axle 12. As the rotating speed sensor 50, a one provided on a vehicle as a wheel sensor used for operation control of vehicle such as ABS or TRC is used. Consequently, the unsprung mass of the vehicle can be minimized, and the force acting on the axle 12 of the vehicle can be precisely detected.



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